

NOTE ON THE COLEOPTERA MYXOPHAGA

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Crowson (1955) has very recently proposed a fourth suborder of the Coleoptera, based on a few minute forms, and in the first place on their thoracic "endoskeleton."

This note is to indicate that the group is also homogeneous on the wing folding and instantly separable from all other beetles examined, Archostemata, Adephaga and Polyphaga. In my wing folding paper (1926) I examined all four genera (each representing a family), considering them a homogeneous group ("Hydradephaga C"), and transferring them from several places in the Polyphaga to lie together next the Halplidae, largely because two of them showed a well formed oblong cell. But I noted that the oblong cell was not folded under cubitus, as in the Archostemata and Adephaga proper, thinking this was a minor effect of their minute size.

In fact then the Myxophaga can be sharply defined on wing folding as follows: hinge-area (C+D) extending clear down to cubitus, unlike all other Coleoptera studied, and working directly with the oblong area (W), so that it swings down, forward and over the outer part of cubitus. This is unique and shown in my diagrams of *Cyathocerus* (now called *Lepicerus*), *Sphaerius*, *Hydroscapha* and *Calyptomeres*. The only other form which has a similar folding is *Eucinetus*, but here the wing is sufficiently well developed to show this is not the true hinge fold, but the secondary one within the cell characteristic of the Dascillid-Cyphon-Lymexylid type of folding.

I had accepted *Clambus*, which has a highly modified ambiguous type of folding, as related to *Calyptomeres* (following everybody), but Crowson is sure this is on another line, rather close to *Eucinetus*, which he considers one of the most primitive of Polyphaga. Its folding can in fact be interpreted as an extreme reduction of *Eucinetus*, though I know no third beetle wing that could be connected with it.

Other wing features of the Myxophaga, though not limited to it, or not found in all four genera = families are: oblong cell present, longer than high (unique but limited to the first two genera), costal hinge chitinized (also Adephaga); anal area relatively extremely reduced (sporadic); outer costal fold or folds concave (also Adephaga, Archostemata).

REFERENCES CITED

- CROWSON, R. A. The Natural Classification of the Families of Coleoptera, 1955. (Myxophaga proposed on p. 10)
- FORBES, W. T. M. Wing-Folding patterns of Coleoptera. Jour. New York Ent. Soc. 24, pp. 42-68, 91-139, 1926. *Calyptomeres* fig. 23, *Lepicerus* (*Cyathocerus*) figs. 19, 20, *Sphaerius* fig. 21, *Hydroscapha* fig. 22, *Clambus* fig. 24, *Eucinetus* fig. 69.

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